

HELI **GRAPHS**

www.IllinoisSolar.org

Newsletter of the Illinois Solar Energy Association June 2005, Vol. 24, No. 2

Largest Photovoltaic System in Chicagoland

Spire Corporation has commissioned a 110 kilowatt photovoltaic system for Cook County's new Domestic Violence Courthouse. The Courthouse will be the County's first flagship LEED (Leadership in Energy and Environmental Design) certified "green" building.

The PV system was designed to supply over five percent of the building's electricity demand. Campbell Tiu Campbell Architects of Chicago were the project architects for the Courthouse, and Sieben Energy Associates were the LEED consultants. The PV system will be one of the largest in the Midwest and would provide the equivalent of electrical energy used yearly by 20-25 Chicago homes.

"Not only are we pleased to be able to adapt a vacant building, but the new courthouse will be the county's first LEED certified 'green' building," said Cook County Board President John H. Stroger, Jr. "In addition to the long-term cost savings that will result from energy-efficient materials and systems, grant dollars have been awarded to the County for the development of a solar energy system."

In addition to Cook County's funding, the PV system was supported by ComEd and a grant from the Illinois Clean Energy Community Foundation. Steve Hogan, Executive Vice President and General Manager of Spire Solar, said, "Cook County has taken a major step to provide leadership by example by installing this, the largest single system in the Chicago area."

SOURCE:
Spire Corporation - News Release
www.spiresolar.com

New Global Wind Map May Lead to Cheaper Power Supply



Stanford researchers have produced a new map that pinpoints where the world's winds are fast enough to produce power. The map may help planners place turbines in locations that maximize power harnessed from winds and provide widely available low-cost energy.

After analyzing more than 8,000 wind-speed measurements to identify the world's wind-power potential for the first time, Cristina Archer, a former postdoctoral fellow, and Mark Z. Jacobson, an associate professor of civil and environmental engineering, suggest that wind captured at specific locations, if even partially harnessed, can generate more than enough power to satisfy the world's energy demands.

Their report appears in the May Journal of Geophysical Research-Atmospheres, a publication of the American Geophysical Union.

("Wind Study" continued on page 6)

Illinois Soy Makes it to Big City Biodiesel Program



OAK FOREST - Diesel fuel emissions have gained, with cause, a reputation as a lung irritant and contributor to childhood asthma because it is used in school buses across the nation. Chicago School Transit has decided to address the problem by becoming the first school bus service in the Chicago Metropolitan Area to use soy-based biodiesel fuel, which is known to reduce hazardous exhaust emissions between 15 and 20 percent.

"Thousands of Chicago students will breathe easier thanks to soy biodiesel fuel in their school buses, an All-American fuel produced from Illinois soybeans," said Illinois Lt. Governor Pat Quinn. "I salute Chicago School Transit for reducing our children's exposure to pollution."

Chicago School Transit is using soy-based biodiesel fuel as part of the "Illinois Clean School Bus Program," developed and administered by Illinois Governor Rod Blagojevich and the Illinois Environmental Protection Agency (Illinois EPA). The purpose of the program is to provide a healthier environment for children by reducing the emissions from diesel-powered school buses and improve the air quality in local communities. Biodiesel for the program, which is a mix of 20 percent soy-based and 80 percent diesel known as B20, is provided by BioEnergy Supply of Frankfort, Illinois.

Fourteen other community school bus fleets, owned and operated by Cook-Illinois Corporation, will follow suit making it the largest bus fleet in the country to use the healthier alternative and environmentally friendly fuel. Cook-Illinois Corporation operates 1,400 school buses in more than fifteen Chicago area communities.

Studies have shown that children riding school buses are exposed to higher level of emissions than other children. Petroleum diesel exhaust emissions inhaled on a consistent basis have been linked to the causes of asthma and other respiratory conditions.

"Every day, families entrust us with the safety of their children," said John Benish, Jr., COO of Chicago School Transit parent company, Cook-Illinois Corp. "As a Chicago leader in alternative fuels, we wanted to be the first to improve the air quality and provide a cleaner and safer atmosphere for school children."

SOURCE:
Renewable Energy Access
www.renewableenergyaccess.com

ISEA "Heliographs" Earns ILDCEO Grant

The ISEA has been advised by Sara Wilcockson of Illinois Department of Commerce and Economic Opportunity (ILDCEO) that the agency is so impressed with our *Heliographs* newsletter that the ISEA will be awarded a \$5,000 grant for expansion!

With this grant, the ISEA is making plans to increase circulation, and reach influential people throughout Illinois, such as our state senators and representatives, as well as those in other non-governmental organizations, and those in the solar industry.

We are asking our members to please forward appropriate names and mailing information for possible additions to our planned circulation list.

Please forward information to:
info@illinoissolar.org
(type "Heliographs" as the email subject)

Jim Camasto, Editor

Project Gives Students Chance to Shine

EVANSTON - Up a dark, narrow staircase atop the roof of Haven Middle School in Evanston is a lesson plan that pupils have yet to discover.

Solar panels recently installed at Haven and two other Evanston schools will demonstrate alternative energy for science and math classes--and should save the district a little money, as well, said Lee Kulman, an industrial arts teacher at Haven.

"It's an educational tool," said Kulman, also energy manager for Evanston/Skokie School District 65. "At some point they'll view the mechanics of the system. ... The other rationale is we will send the message that yes, we are interested in alternative sources of energy."

At each school, four panels approximately 4 feet by 6 feet capture the sun's rays and convert them into energy that feeds into the school's power grid. At their full potential, the panels, which face southwest, can generate up to 2,000 watts of power--enough to operate 10 computers, Kulman said.

The systems at Haven, Chute and Nichols Middle Schools cost \$7,000 to \$10,000 each, and most expenses were covered by grants from a national non-profit organization, Foundation for Environmental Education, and ComEd.

Each school pitched in \$1,500 for installation of the panels and an instrument that tells officials how much energy is being generated, Kulman said.

Haven will be host of a public "Solar-bration" from 11 a.m. to 1 p.m. Saturday in the school, 2414 Prairie Ave.

"We're looking at all resources to educate our students. This will be their future," Michelin said.

SOURCE:
Chicago Tribune, NS Edition
www.chicagotribune.com

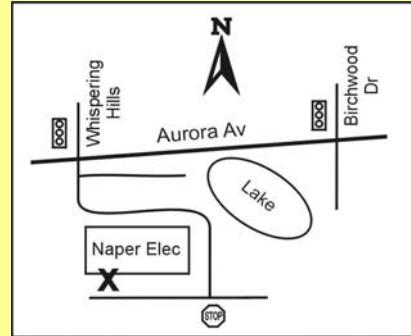
ISEA Summer Membership Meeting Saturday, July 9, 10am - 12pm

Come join the ISEA for a tour of the new, state of the art Naperville Municipal Electric Service Center

1392 W Aurora Ave
Suite 200 (South Entrance)
Naperville, IL 60566

We will discuss Renewable Energy Credits (REC's), Naperville's new integrated REC program with Community Energy, and Municipal Electric Utility Operations. Light refreshments will be served.

You don't have to be a member to attend - so invite your friends, family, neighbors and colleagues. RSVP's are appreciated so we know how much food to purchase.



For more information, contact:
Ted Lowe
info@illinoissolar.org
(630) 260-0424

Fourth Annual Illinois Renewable Energy and Sustainable Living Fair

"Sustainable Paths"

Saturday, August 13th
and Sunday, August 14th

Ogle County Fairgrounds
1440 N Limekiln Rd, Oregon IL
(North of Hwy. 64, 2 hours
West of Chicago's Loop)

For more info, contact
Bob & Sonia Vogl at
815-732-7332 or email
sonia@essex1.com



www.illinoisrenew.org

ISEA and the Chicago Solar Partnership

Letter from the ISEA President

Dear Friends:

One of the Illinois Solar Energy Association's top achievements is winning an award from the U.S. Department of Energy's Million Solar Roofs Initiative. The award will support the Chicago Solar Partnership, which will market the use of solar power in the Chicago metropolitan area.

The Partnership operated for a number of years as a platform for launching the solar electric market in Chicago. This effort will now be expanded to include solar thermal applications and go beyond the City of Chicago

After a lot of hard work by ISEA Board Members and other volunteers, a Program Developer was selected to keep the Chicago area in the forefront of solar development. I would like to introduce Kathy Quasey, of Exposition Management International.

Kathy has had considerable experience marketing for environmental issues as well as corporate clients. She will be reporting (*see article below*) on the building and progress of the Partnership in Heliographs and the Partnership's own media outlets.

Mark Burger, ISEA President

Chicago Solar Partnership

There is much good news for the Chicago Solar Partnership (CSP)! In the last month, we have achieved milestones for the Partnership that will contribute to the long-term viability of the organization. These include:

CSP Office and Trademark: Recently, the City of Chicago has offered CSP an office base at the Department of the Environment. This will give the Partnership basic operations support - an office, address, computer and phone. And, ComEd has funded the legal cost and has secured the trademark of the CSP logo so that it will be protected for the years going forward. Having a trademarked logo will enable the

Chicago Solar Partnership to build brand equity in the organization through on-going marketing development initiatives

New CSP Website: A new look and extensive additional content for the CSP website has also been funded by ComEd. While still in development, the CSP website will provide base level information on how photovoltaic and solar thermal systems work, information on current financial incentives and track 28 photovoltaic sites around Chicago with real time energy readout when available. New solar installations will also be showcased, interested installers will be able to log on for training schedules and locations, educators will be able to connect to renewable energy curriculum downloads, and upcoming solar events will be featured.

In short, the new website will serve as an in-depth solar energy communications platform that will help advance solar market development and speed general public education of solar energy related resources in the Chicago region.

CSP Co-Sponsor of Solar Forum: In September, the CSP will be an official co-sponsor with the City of Chicago and the US DOE's Million Solar Roof Initiative of a forum, "Solar Means Safety: How Safe is Your Community?".

Mayors and key personnel from surrounding municipalities will be invited to attend an intensive one day session on solar energy and security solutions ranging from first emergency responders and essential services to traffic control. The date and place is yet to be determined, but we are looking forward to a very productive discussion day.

While there is much to do, in the months ahead we will be developing other aspects of the CSP that will lead to increased value for its members and for the solar energy market in Illinois. Stay tuned!

*Kathy Quasey, Program Developer
Chicago Solar Partnership
www.chicagosolarpartnership.com*

North American Solar Car Challenge

Four Illinois Teams Competing in 2,500mi of Solar Powered Raycing



The State of Illinois is well represented for the 2005 North American Solar Car Challenge. Four colleges and universities are among thirty entries for the July 17-27 event that will begin in Austin, Texas and finish ten days and 2,500 miles later in Calgary, Alberta.

The four Illinois schools represented are:

Illinois State University of Bloomington, Northwestern University of Evanston, (photo), Principia College of Elsah, Southern Illinois University at Edwardsville.

To follow the race, go to the Challenge website.

SOURCE:
North American Solar Challenge
www.americansolarchallenge.org

Sustainable Hydrogen Economy

Wednesday, July 6, 4-5 pm

Fermilab Colloquium Presents a general interest lecture on:

Sustainable Hydrogen Economy
by John Turner,
National Renewable Energy Lab

Fermilab, 1 West
Kirk and Wilson Roads, Batavia, IL
www.fnal.gov

Renewable Energy Bill Has County Worried

House Bill 1421 Could Cut Tax Revenues from Wind Farms

FREEPORT - Stephenson County officials are concerned proposed state legislation could significantly reduce the amount of revenue the county would receive from establishing power-generating wind farms in this area, according to County Zoning Administrator Terry Groves.

Officials say the proposed legislation - House Bill 1421 - may include a sizable renewable energy property tax credit for wind farm companies seeking to locate in Illinois. The effect of such a law would be that a county with wind farms would receive much less property tax revenue from the wind farm companies, Groves said. "In this case, it's just a bad move all the way around," Groves said of the legislation.

Neither of the two wind farm companies interested in building wind towers in Stephenson County have yet come forward to apply for zoning, which would set the project in motion. Even so, the county is hopeful the wind farm projects will provide a new source of revenue. The two companies are Navitas Energy of Minneapolis, Minn., and Zilkha Renewable Energy of Houston, Texas.

With the new legislation, wind farm companies would only be taxed at about 5 percent of the normal rate for property tax, Groves said. Counties and other taxing bodies that would receive a portion of that property tax revenue would likely be receiving much less revenue if this legislation were approved, officials say.

Considering the tremendous amount of work the county zoning department would have to go through to process the wind farms' zoning applications and hold public hearings, the revenue reduction would make the projects much less worthwhile for the counties involved, Groves said.

Exact figures were not available as to the amount of money the county would lose from this legislation. However, as an example, Chief County Assessment

Officer Ron Kane said a wind farm company's construction costs for one tower would likely be about \$1 million. Of that \$1 million, the county would be eligible for \$13,500 in property tax revenue. With the new legislation, the county would likely only receive about \$600 to \$700 per tower, Kane said.

"The revenue would be cut short," Kane said. "There'd be no incentive for a county to court (the wind farm companies)."

Currently, the Illinois Association of County Zoning Officials is looking into writing letters to state representatives in different districts asking them to change or vote against the legislation, Groves said.

The state legislators sponsoring the bill were not available for comment. State Rep. Jim Sacia, R-Pecatonica, said he has not yet researched the bill thoroughly, but has spoken to County Board Chairman John Blum about the county's concerns. Blum was unavailable for comment. "I know that (Blum) is very concerned about it," Sacia said.

Allowing wind farm companies in this county will ultimately be a decision of the County Zoning Board of Appeals and the full County Board. It's not clear how this legislation would affect that decision-making process, officials say.

The legislation is currently in the House Rules Committee. It is not yet clear when the bill will be voted on.

SOURCE:

Travis Morse, *The Journal-Standard*
www.journalstandard.com

ComEd Factoid

Through April 30, 2005

ComEd reports 160 solar PV and small wind interconnections in its service territory totaling 1,699.1 kilowatts of DC capacity. In addition, the Crescent Ridge wind farm is reported on line at 51 MW along with the Mendota Hills wind farm at 50.4 MW.

Maryl Freestone, ComEd
<http://commonwealthedison.com>

Spring Meeting Recap

More than 45 people toured the first Geothermal home in Oak Park on this sunny, but chilly morning. Eight vertical wells bored into the side yard comprise the coolant loop for a large, reversible heat pump situated in the basement.

The system handles virtually all of the old Victorian home's space heating and cooling needs through the existing forced air distribution system. The backup furnace has rarely, if ever, been required.

The ISEA would like to thank Kathi and Phil Elwood of Oak Park for graciously hosting the Spring Membership Meeting and wishes them good luck with their future PV and building-based wind installation.



ISEA also wishes to thank State Senator Don Harmon of Oak Park for lending us the chairs used for the Spring membership meeting.

Jim Camasto, Editor

Quote:

"When the American public and the free market are truly given the opportunity to choose, energy efficiency and renewable energy are on the top of nearly everyone's priority list - outside of the Washington beltway."

*Steven J. Strong
Solar Design Associates, Inc
www.solardesign.com*

Restructuring of ICECF Grant Support for Solar PV Systems

The Illinois Clean Energy Community Foundation's (ICECF) grant program to support installation of solar photovoltaic (PV) systems has been under review since the latter half of 2004.

The Foundation's Board of Trustees recently approved the following program changes:

1. New School Program to be Launched: The Foundation will initiate a new demonstration-scale (~1kW) PV installation program for K-12 schools and other local government and nonprofit children's educational facilities, such as museums and nature centers. The program details will be finalized in the coming months and announced in fall 2005, in advance of an early 2006 grant application deadline.

2. Small-Scale Program Ended: The Foundation has ended the program through which it formerly accepted requests on a "rolling review" basis throughout the year to support installation of small-scale PV systems (up to 50kW) on any local government or nonprofit facility in Illinois with grants of \$2000/kW of system capacity.

3. Competitive Grant Opportunities Continue: Through its semi-annual competitive grant cycles, the Foundation will continue to accept grant requests for projects that advance use of solar PV technology in green buildings. The Foundation will give preference to (a) building integrated PV systems, and/or (b) PV installations in which the PV system will contribute to the attainment of LEED Silver or higher rating.

Systems must (i) supply at least 25% of building load during peak periods, (ii) be sized to meet specific, appropriate building loads, and/or (iii) have sufficient capacity to earn points toward a LEED rating for the building. Grant amounts will be considered on a case-by-case basis taking into account cost effectiveness of the project, project innovation, simple project payback, other sources and amounts of funding, and owner contribution.

SOURCE:
Bob Romo, Program Officer
bromo@illinoiscleanenergy.org

More Illinois Solar in the News

It has been a good couple of months for positive press about solar in Chicagoland. In March, solar was featured in AIA Chicago Focus magazine. In April, solar and sustainable design was featured in Conscious Choice .

The May issue of Wired magazine (circulation 600,000) featured a great story about Solar wind and PV in Stelle and a great feature on Salvador Lamas and his solar hot water system on Taco Burrito King on Belmont in Chicago.

See the article here:
www.wired.com/wired/archive/13.05/solar.html

Also, over the memorial day weekend, Chicago Center for Green Technology (CCGT) was featured in WLS-TV's "190 North" show, hosted by Kathy Brock.

For more info on the CCGT, see:
<http://egov.cityofchicago.org/Environment/GreenTech>

Energy-Saving Nature Center Blends with Prairie

When it's finished next spring, a new nature center in Glenview may be hard to spot from the air.

Its 4,000 SF roof, alive with prairie plants, will blend in with the 32 acres of remnant prairie on which it is sited. That's just one way the environmentally friendly Emily Pease Tyner Interpretive Center will sit lightly upon the earth.

When ground is broken for the \$2 million center this fall, it won't be much ground. Steel supports will elevate it, minimizing digging. Water will run below the building, situated between two wetlands.

Highest rating
Built for the north suburban village, the center will qualify for a platinum rating -- the highest level -- from the U.S. Green Buildings Council. The region has only one such building now, the City of Chicago's Center for Green Technology.

Like its predecessor, the Tyner Center will produce more electricity than it consumes. "This is all about how you get to zero energy," said Lois Vitt Sale of Wight & Co., a design-and-build firm in Darien. She reported Wednesday on the project at the Greening the Heartland conference in Chicago.

Energy from Earth, sun

Pipes sunk 150 to 200 feet into the earth, where it's about 50 degrees all year, will supply geothermal energy. The building's heating system will have that much of a head start in raising temperatures to a comfortable level.

A second form of renewable energy, solar, will come from an array of photovoltaic shingles that make up one sixth of the roof.

Another way to make the building consume less power: "Minimize the size by turning it inside out," Vitt Sale said. She was referring to the educational panels on the outside walls, saving interior space for lectures and exhibits. "And you learn whether it's open or not."

Rebate instead of a bill

Sunlight maximized by a southern exposure will help with the light bill. So will sensors on lights that adjust for daylight and the presence of people.

Heat-saving insulation will be provided by a polyurethane layer between the composite wood walls, and by the 6-inch-thick green roof. Outdoor air will cool the building 25 percent of the year simply by leaving the windows open.

Wight & Co.'s design shows the Tyner Center using 46.25 percent as much energy as an ordinary energy-efficient structure. The village will get a rebate instead of a bill from ComEd for the center -- it's supposed to produce 11.8 kilowatts a year more than it consumes.

But because estimates are conservative and there's not enough data to quantify the green roof's effect, "I expect it to be better than that," Vitt Sale said.

SOURCE:
Gary Wisby, Chicago Sun Times
www.suntimes.com

More Power Blackouts Likely on Lack of Investment

Power blackouts similar to those in the U.S. East Coast, Italy and the U.K. two years ago are likely to be repeated around the world because of insufficient investment and aging power plants, PriceWaterhouseCoopers said.

About \$12.7 trillion of investment, greater than the U.S. annual economic output, is needed through 2030 to meet an expected doubling in electricity consumption, a report by consultants at PriceWaterhouseCoopers said. That total is higher than the estimated \$10 trillion spending on electricity called for by the International Energy Agency during the same period.

"Blackouts are expected to become more frequent," according to the report, which was based on a survey of 119 investors and executives at utilities in 36 countries. "Two-thirds of utility respondents believe the likelihood of blackouts will increase or remain the same. Only a quarter think it will reduce."

Failures at power cables in upstate New York, London and northern Italy left millions of people, offices and subway systems without power in 2003. In Europe, power plant developments have failed to keep pace with demand, leaving nations such as Italy and the Netherlands dependent on imports to keep the lights on.

Security of supply is a "major concern" for 72 percent of the utility industry executives surveyed, up from 65 percent last year, the report said.

North America will need about \$3.4 trillion of investment through 2030, more than any other region, because it's also the biggest energy consumer, the report said. China will need about \$2.4 trillion of investment in power and gas assets, the report said.

Wind, Solar

Rising investment in renewable sources, such as solar power and wind parks, isn't expected to deliver enough power to replace thermal or nuclear stations.

The survey participants "expect the share of renewables to remain virtually the same in the next 10 years," the report said.

In the U.K., renewable sources are expected to generate about 10 percent of the country's electricity by 2010, up from about 5 percent now. Nuclear plants such as Sizewell supply about one-fifth of the Britain's electricity, and almost all power in France.

Nuclear power stations will also be backed by governments after countries around the world, including those in the European Union, committed to cut carbon emissions from coal and gas-fired power plants under the Kyoto Protocol, the report said. Nuclear stations don't emit carbon dioxide.

SOURCE:
Elena Moya, Bloomberg
www.bloomberg.com

"Wind Study" (...continued from page 1)

"The main implication of this study is that wind, for low-cost wind energy, is more widely available than was previously recognized," said Archer, now a researcher at the Bay Area Air Quality Management District.

The researchers collected wind-speed measurements from approximately 7,500 surface stations and 500 balloon-launch stations to determine global wind speeds at 80 meters (300 feet) above the ground surface, which is the hub height of modern wind turbines. Using a new interpolation technique to estimate the wind speed at hub height, the authors reported that nearly 13 percent of the stations had average annual wind speeds strong enough for power generation.

Wind speeds of 6.9 meters per second (15 miles per hour) at hub height, referred to as wind power Class 3, were found in every region of the world. Some of the strongest winds were observed in Northern Europe, along the North Sea, while the southern tip of South America and the Australian island of Tasmania also featured sustained strong winds. North America had the greatest wind-power potential, however, with the most

consistent winds found in the Great Lakes region and from ocean breezes along coasts. Overall, the researchers calculated hub-height winds traveled over the ocean at approximately 8.6 meters per second and at nearly 4.5 meters per second over land (20 and 10 miles per hour, respectively).

The authors found that the locations with sustainable Class 3 winds could produce approximately 72 terawatts. A terawatt is 1 trillion watts, the power generated by more than 500 nuclear reactors or thousands of coal-burning plants. Capturing even a fraction of those 72 terawatts could provide the 1.6 to 1.8 terawatts that made up the world's electricity usage in 2000. Converting as little as 20 percent of potential wind energy to electricity could satisfy the entirety of the world's energy demands.

The study, supported by NASA and Stanford's Global Climate and Energy Project, may assist in locating wind farms in regions known for strong and consistent breezes. In addition, the researchers suggest that the inland locations of many existing wind farms may explain their inefficiency.

"It is our hope that this study will foster more research in areas that were not covered by our data, or economic analyses of the barriers to the implementation of a wind-based global energy scenario," Archer said.

SOURCE:
Stanford Report
www.news-service.stanford.edu

Heliographs is published quarterly by the Illinois Solar Energy Association (ISEA). Editor: Jim Camasto. Special thanks to Philips Lighting for their generous donation of printing services.

Membership information, updated information, and assistance in locating other resources can be obtained on the ISEA website: www.illinoissolar.org

Comments & questions directed to:

Illinois Solar Energy Association (ISEA)
P.O. Box 634, Wheaton, IL 60189-0634
info@illinoissolar.org
(630) 260-0424

Home's Green Roof Has A Slant To It

Green roofs are sprouting up all over, but most of them are on flat surfaces and can't be seen from street level. But Lois Vitt Sale -- always one to shout worthy ideas from rooftops -- wanted her elevated garden to be visible. So she planted it on the peaked roof of the garage of her Downers Grove home.

"People keep riding by on bicycles and saying, 'Is that grass on your roof?'" she said. "It's the steepest green roof in the Chicago area."

And among the eight area roofs nominated for the Green Roofs Award of Excellence to be given next week in the nation's capital, Vitt Sale's is also the only one that belongs to a homeowner.

500 plants

Constructed last September, it has 500 plants representing 36 kinds of grasses, wildflowers and herbs. Standing carefully but confidently on the 530-square-foot plot Wednesday, Vitt Sale pointed out blue fescue and green spikes of allium among varieties of sedum showing red, gold, burgundy, green and bluish gray.

"Sedum is the common denominator of green roofs," she said. "It's highly tolerant of hostile environments, very cold or very hot. If some of the other plants don't do well, the sedum will take over. It's the one you can count on."

But Vitt Sale fully expects to grow wild strawberries, purple coral bells, thyme, oregano, geraniums, little bluestem and "tons of daisies."

In addition to looking beautiful, the roof will cut storm water runoff in half, clean the rainwater of pollutants, absorb carbon dioxide and lessen the urban "heat island" effect on the atmosphere.

Her roof may be green, but Vitt Sale is not when it comes to environmentally friendly structures. An adviser to the City of Chicago on green roofs, she is director of sustainable design for Wight Co. and was instrumental in the building of Bolingbrook High School, the Bachelors Enlisted Quarters at Great Lakes Naval Base and other nationally recognized projects.

High grass helpers

All the plants and labor to help her put in the roof were donated by people eager to learn from her about green roofs -- growers, landscapers and a City of Chicago Planning and Development Department employee.

Vitt Sale thinks her roof already looks great, but looks forward to the end of the season when it will be completely covered by flowers and grasses. "It will have the same look as a perennial garden," she said. "Only it will be on a hill."

And because everything in it grows naturally in these parts, after this season she'll never have to water it again.

SOURCE:

Gary Wisby, *Chicago Sun Times*
www.suntimes.com

Chicago Dominates Green Roof Nominations

Chicago dominated the Green Roofs Awards of Excellence with eight of 21 nominations.

The competition is part of the 3rd annual Greening Rooftops for Sustainable Communities Conference, Awards and Trade Show held in May in Washington, D.C.

The Chicago-area nominees include the Apple Computer Flagship store, the Morton Arboretum in Lisle, the Bank One Center and Evanston's Church Street Station condominium.

Others include Downers Grove homeowner Lois Vitt Sale, Millennium Park, the Peggy Notebaert Nature Museum and the Schwab Rehabilitation Hospital in Chicago.

All nominated projects incorporate green roof technology in their design. A green roof is a roofing system designed to support green space on top of built structures.

The Greening Rooftops for Sustainable Cities Conference is co-hosted by Green Roofs for Healthy Cities and the District of Columbia.

SOURCE:

McGraw Hill Construction
www.midwest.construction.com

Phase One for World's Largest Solar PV Plant

Bavaria, Germany - The state of the European Union may be thrown into question with France, and now the Netherlands, voting against a new EU constitution, but the state of the Germany's solar industry is clearly a solid one with massive, multi-MW solar power plants cropping up all over the countryside. The latest project is the first phase of what will eventually be a full 12 MW solar power plant -- literally fields of solar panels dwarfing anything else in the world.



The record-breaking undertaking also showcases a novel new tracking system that's indicative of the trend in Germany for solar to become an industrial form of power generation spurred on by the government's unparalleled production-based incentive support policy.

Solon AG, Germany's largest photovoltaic (PV) module manufacturer spearheaded the project and teamed up with the U.S.-based SunPower Corp. The solar power plant, known as Solarpark Gut Erlasse and located in Bavaria near Arnstein, Germany, was officially activated this week.

SunPower's contribution for this specific project was in providing roughly one third of the solar modules for the project.

While Solon is the largest producer of PV modules in Germany, with an annual production capacity of more than 90 MW, its major and notable contribution to the project comes through the installations of their new Solon-Mover double-axial solar tracking system.

Designed specifically for deployment in multi-MW solar power plants, 1,500 separate Solon Movers automatically tilt and rotate during the day to directly face the sun at all times. Each unit presents approximately 50 square meters of solar PV to the sky, equivalent to as much as 9.3 kW per unit.

SOURCE:

Renewable Energy Access
www.renewableenergyaccess.com

ISEA PREMIER BUSINESS MEMBERS

This listing is provided as a Premier Business Member benefit and does not imply endorsement by ISEA. However, ISEA thanks these businesses for supporting our common goals of promoting renewable energy technologies & energy education.

SOLAR SERVICE^{INC.}
Renewable Energy Specialists Since 1977
clean • affordable • reliable
Harvest the sun's energy and lower the cost of heating your home, hot water, or pool while adding comfort and value to your home
www.**SOLARSERVICEINC.com** **847-677-0950**
50% STATE REBATE AVAILABLE!
call or log on for more details



AMERICAN RENEWABLE ENERGY

American Renewable Energy

David Dwyer, President

805 Greenwood St
Evanston, IL 60201

Phone: 847-424-0288, 800-454-1461
Fax: 847-424-0289

Email: david@americanrenewable.com
Web: www.americanrenewable.com



With five new Spire Solar electric systems coming to Chicago's Millennium Park this summer, we reach a new benchmark.

One Megawatt
of Solar Power in Chicago!

We've only just begun.

SPIRE SOLAR CHICAGO
Chicago Center for Green Technology
445 North Sacramento Boulevard
Chicago, IL 60612
773.638.8700
spiresolarchicago.com



Advanced Geothermal Plumbing and Heating, LLC

Dirk Dypold, Manager

Elgin, Illinois

Phone: 847 695-1657

Email: geodd@sbcglobal.net

Web: <http://www.advancedgeothermal.com>

ISEA BUSINESS MEMBERS

This listing is provided as a Business Member benefit and does not imply endorsement by ISEA. However, ISEA thanks these businesses for supporting our common goals of promoting renewable energy technologies and energy education.

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| Advanced Geothermal Plumbing and Heating, LLC Dirk Dypold, Manager Elgin, Illinois Phone: 847 695-1657 Email: geodd@sbcglobal.net Web: http://www.advancedgeothermal.com | Howard Alan Architects 849 Armitage Ave. Chicago, IL 60614 Phone: 773-929-2121 Fax: 773-929-2122 Email: halan@xsite.net Web: www.howardalanarchitects.com | American Renewable Energy David Dwyer, President 805 Greenwood St Evanston, IL 60201 Phone: 847-424-0288, 800-454-1461 Fax: 847-424-0289 Email: david@americanrenewable.com Web: www.americanrenewable.com |
| Baldwin Properties John Porter 6134 W Roosevelt Rd. Oak Park, IL, 60304 Phone: 708-383-1888 Email: j.porter@comcast.net | Becker Renewable Energy Bil Becker Renewable Energy Engineer 2155 Wolpers Road Park Forest, IL 60466 Phone: 262-642-4707 Fax: 708-481-6178 Email: bilbecker@bigplanet.com | Bergey Windpower Co., Inc. 2001 Priestley Ave. Norman, OK 73069 Phone: 405-364-4212 Email: mbergey@bergey.com Web: www.bergey.com |
| Chicago Dept. of Environment N. Marcia Jiminez, Commissioner 30 North LaSalle Street, Suite 2500 Chicago, IL 60602 Phone: 312-744-7606 Fax: 312-744-6451 Email: environment@cityofchicago.org Web: www.cityofchicago.org/environment | Facilities Research Nancy Hamill Governale North Barrington, IL 60010 847-712-6251 Email: hamill@iit.edu | The Field Museum Sherrie Gauley 1400 S Lake Shore Dr Chicago, IL 60605 Phone: 312-922-9410 Web: www.fmnh.org |
| Habi-tek Tom DeBates 524 Summit St Geneva, IL, 60134 Phone: 630-262-8193 Email: habitek83@yahoo.com | HarleyEllis Architecture, Design & Planning Susan F. King, AIA Associate 401 West Superior St. Chicago, IL 60610 Phone: 312-951-8863 Fax: 312-951-1719 Email: sking@environ-inc.com Web: www.environ-inc.com | Harmony Home Inspectors, Inc. PO Box 31 Huntley, IL 60142 Phone: 847-340-0402 Fax: 773-326-0773 Email: sales@inspect-il.com Web: www.inspect-il.com |
| Home Patron, Inc. 7311 W Diversey Ave Elmwood Park, IL 60707 Phone: 708-452-7258 Fax: 708-452-3126 Email: info@homepatron.com Web: www.homepatron.com | IBEW/NECA Technical Institute Kevin Lynch Electrical Program Coordinator 6201 W. 115 TH Street Alsip, IL 60803 Phone: 708-389-1340 Fax: 708-389-2840 Email: klynch@in-techonline.org Web: www.in-techonline.org | Illinois Clean Energy Community Foundation Ed Miller, Program Director 2 North LaSalle Street Chicago, IL 60602 Fax: 312-372-5191/5190 Web: www.illinoiscleanenergy.org |

ISEA BUSINESS MEMBERS

This listing is provided as a Business Member benefit and does not imply endorsement by ISEA. However, ISEA thanks these businesses for supporting our common goals of promoting renewable energy technologies and energy education.

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| Illinois Dept. of Commerce and Economic Affairs Rex Buhrmester, Program Manager 620 E. Adams St. Springfield, IL 62701 Phone: 217-557-1925 Fax: 217-785-2618 Web: www.illinoisbiz.biz/com/energy/renewable.html | Illinois Solar Products, Inc. Ernie Nathan 1920 Northland Ave Highland Park, IL 60035 Phone: 847-612-2789 Email: ernie@illinoissolarproducts.com Web: www.illinoissolarproducts.com | Image Plus Ron Burzynski 412 Ogden Ave Downers Grove, IL 60515 Phone: 630-852-4920 Fax: 630-852-6088 |
| Marshall, Gerstein & Borun LLP Lisa Glancy, Marketing Director 233 S Wacker Dr. 6300 Sears Tower Chicago, IL 60606-6357 Phone: 312-474-6300 Fax: 312-474-0448 Web: www.marshallip.com | City of Naperville Municipal Electric Utility Allan L. Poole, Director 400 South Eagle St. Naperville, IL 60566 Phone: 630-420-6131 Fax: 630-4206744 Email: poolea@naperville.il.us Web: www.naperville.il.us | Nekolux Vladimir Nekola 1433 W. Chicago Ave. Chicago, IL 60622 Phone & Fax: 312-738-3776 Email: Vladimir@nekolux.com Web: www.nekolux.com |
| OCULUS Architecture P.C. Paul E. Sterner, AIA 9525 South 79th Avenue Hickory Hills, IL 60457 Phone: (708) 598-4255 Fax: (708) 599-6440 Email: oculusdesign@att.net Web: www.oculusarchitecture.com | RLD Resources, LLC Kelly Shelton 333 North Michigan Ave Suite 2800 Chicago, IL 60601 Phone: 312-795-0798 Fax: 800-282-6415 Web/Email: www.rldresources.com | S.N. Peck, Builder, Inc. Neil Peck, President 1647 W. Fulton St. Chicago, IL 60612 Phone: 312-738-2600 Email: npeck@snpeck.com |
| Solargenix Energy LLC Joanna Rybus, Chicago Office Manager 3622 S Morgan St Chicago, IL 60609 Phone: 773-847-8333 Fax: 773-847-8555 Email: jrybus@solarigenix.com Web: www.solargenix.com | Solar Gold Mary Eileen O'Keefe 1362 N State Pkwy Chicago, IL, 60610-6104 Phone: 312-482-9701 Email: maryeileenokeefe@aol.com Web: www.solar-gold.com | Solar Service, Inc. Brandon Leavitt 7312 N Milwaukee Ave Niles, IL 60714 Phone: 847-677-0950 Fax: 847-647-9360 Email: bl@solarserviceinc.com Web: www.solarserviceinc.com |
| Spire Solar Chicago Mark Burger, Sales Manager Chicago Center for Green Tech. 445 North Sacramento Blvd. Chicago, IL 60612 Phone: 773-638-8700 Fax: 773-638-8701 Email: mburger@spirecorp.com Web: www.spiresolar.com | Sun Ovens International Inc. Paul Munsen, President 39W835 Midan Drive Elburn, IL 60119 Phone: 800-408-7919 Fax: 630-208-7386 Email: sunovens@execpc.com Web: www.sunoven.com | SunWize Technologies, LLC Mark W. Wilkerson VP Business Development #1 Sun Street, Stelle, IL 60919 Phone: 815-256-2274 or 1-800-683-4837 x-22 Fax: 815-256-2221 Email: mwwpv@stelle.net Web: www.sunwize.com |
| | Wynne D. City Power, Inc. Robin Schulemann Director of Product Development 2035 S Racine Ave Chicago, IL 60608 Phone: 312-243-6414 Fax: 312-243-6781 Email: robins@windycitypower.com Web: www.windycitypower.com | |

ISEA CHARTER BUSINESS MEMBER SOLARGENIX

WINSTON SERIES COLLECTOR SELECTED TOP-10 PRODUCT

The Winston Series Compound Parabolic Collector (CPC) Solar thermal Collector, manufactured by **Solargenix Energy, LLC** has been selected as one of the 2004 BuildingGreen Top-10 products. This annual award recognizes the most innovative and exciting green building products added to the GreenSpec® Directory during the past year.

This year's BuildingGreen Top-10 covers a wide spectrum of products and applications. Some are used primarily in commercial buildings, others in houses. Some are considered green because they utilize renewable energy, others because they avoid toxic chemicals or are made from recycled or independently certified green materials, and still others because they save energy or water.

A big driver in the development of green products is the U.S. Green Building Council's LEED® Rating System (Leadership in Energy and Environmental Design), which awards points for certain product characteristics or the energy or water savings they can achieve. Designers of LEED buildings are looking for



green products, and manufacturers are responding,, said Wilson.

The Winston Series CPC solar thermal collector is the most advanced solar thermal product on the market. Manufactured at the Solargenix facility in Chicago, the collector is used for solar water heating, space heating, industrial process heat and solar cooling projects. The advanced science that allows the parabolic collector to be designed as a building integrated flat plate collector is the patented non-imaging optics developed at the University of Chicago by Dr. Roland Winston who now is on staff at the University of California at Merced.

The Winston Series CPC collector is the only solar collector used in the Solargenix water heating product line

of active and passive solar heating systems. The aesthetical design, integrated mounting systems and quality materials gives builders and designers flexibility in use and installation of the solar collector array.

GreenSpec is the leading national directory of green building products. The 1,800-plus products included in the directory are selected by editors of Environmental Building News (EBN) based on criteria developed over the past 13 years. Environmental Building News, founded in 1992, is the oldest and most widely respected publication in the green building field.

Manufacturers do not pay to be listed in GreenSpec, and neither GreenSpec nor EBN carries advertising; both are supported by users of the information. This policy of not accepting money from manufacturers allows us to be objective in reviewing products for inclusion, said Wilson. GreenSpec is available as a print directory as well as part of a web resource, the BuildingGreen Suite.

SOURCE:
BuildingGreen
www.BuildingGreen.com
800-861-0954

JOIN US in the common goal of promoting solar/renewable technologies, providing energy education and establishing a sustainable energy network. Your support today can help provide a cleaner environment tomorrow.

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Illinois Solar Energy Association P.O. Box 634 Wheaton, IL 60189-0634

UPCOMING EVENTS

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| June 17-19 <i>Fri & Sat, 9am-7pm Sun, 9am-5pm</i> | Midwest Renewable Energy Association Sustainable Living Fair, Custer, WI | www.the-mrea.org |
| July 9 <i>Saturday, 10am-12pm</i> | ISEA Summer Membership Meeting Naperville Municipal Electric Service Center Naperville, IL | See Page 2 |
| July 17-27 | North American Solar Car Challenge Austin, Texas to Calgary, Alberta | See Page 3 |
| August 13-14 <i>Saturday, 9am-6pm Sunday, 9am-5pm</i> | Fourth Annual Illinois Renewable Energy and Sustainable Living Fair Oregon, IL | See Page 2 |

Current Members: To keep ISEA costs low and to save the environment, ISEA does NOT send annual dues invoices. Please check the address label on this edition of Heliographs! If the date on the label is highlighted, then your dues may be overdue. Use the enclosed application to mail your renewal. Thanks!



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